

CLASSIFICATION **SECRET**

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INFORMATION FROM

FOREIGN DOCUMENTS OR RADIO BROADCASTS

EXPORT

CD NO.

50X1-HUM

COUNTRY Russia

SUBJECT Medical Pathology

HOW
PUBLISHED Weekly newspaper

**WHERE
PUBLISHED** MOSCOW

DATE
PUBLISHED 13 Apr 1949

LANGUAGE Russian

DATE OF
INFORMATION 1949

DATE DIST. 12 May 1949

NO. OF PAGES 3

SUPPLEMENT TO
REPORT NO.

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SOURCE Meditsinskiy Rabotnik, No 15, 1949.

INFLUENZAL PNEUMONIA

Prof D. Rossiyskiy
Honored Worker of Science

Pneumonia is a disease which most frequently complicates influenza cases. The influenza viruses cause hyperemia of the bronchial passages and of the pulmonary parenchyma accompanied by traumatic conditions of the vascular walls and by hemorrhage. Such conditions increase the vital activity of various microbes, such as pneumococcus, Pfeiffer's bacillus, streptococcus, etc., and increase the possibility of contracting pneumonia. Pneumonia of such etiology frequently develops into the hemorrhagic type and is characterized by hemoptysis.

Preliminary examinations during the initial stage disclose no pulmonary degenerations. It is possible, however, to auscultate weak crepitations in the lungs. With further development of pneumonia, the patient tussiculates and develops definite dyspnea. Expectoration persists, leading to pyoptysis and, frequently, to hemoptysis.

It must be noted, however, that in many cases the exact source of the crepitation is impossible to determine. Many specialists failed to determine the source even with the aid of bronchophones on the basis of bronchial respiration.

It is possible to determine the nidus with the gradual progress in the individual case. Influenzal pneumonia diffuses very rapidly in the lung and many cases, having only a few nidi in the morning, develop a general infection of the lungs by the same evening.

The acute stages of pneumonia frequently coincide with the onset of influenza complication. This condition is usually seen following the initial drop in temperature, or 4 or 5 days after the onset of the disease. The clinical picture of influenza pneumonia cases is very similar to that of cases afflicted with acute pneumonia.

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The course of the disease is usually slow and takes 3 or 4, if not more, weeks before any improvement can be seen and before the temperature commences to drop. However, in weakened cases and in aged persons, pneumonia is liable to linger for several months. In such cases there is the additional danger of tubercular development. The progress of pneumonia in aged persons is sometimes unaccompanied by the usual symptoms; many with the disease have no tussis or abnormal expectorations and have subnormal or even normal temperature. Physical examinations result in the detection of scattered sources of muffled sound, bronchial respiration, and crepitation.

In recent years, several atypical forms of influenzal pneumonia have been encountered. These include those having virus etiology, such as peripheral or central pneumonia, with a characteristic morphological and clinical picture. The microorganisms invade the interior of the lobes or are localized on the periphery of the lungs. These types of pneumonal afflictions are serious and are frequently the initial stage and not the secondary stage, of influenza. Physical symptoms are insignificant and the few who are examined cannot be diagnosed by roentgenological examinations. In the majority of the cases there is a light crepitation.

Patients afflicted with peripheral and central pneumonia become tussicular and frequently develop hemoptysis. They also complain of cephalalgia and fever. In the initial stage of this disease the tussis is dry but shortly afterwards small particles of mucoid and bloody sputum are expectorated. Microscopic examination shows the presence of Diplococcus, and Saprophytes in the sputum specimens. Blood tests indicate positive leukopenia, specific lymphocytosis, monocytosis, an increase in the bacillo-nuclear leukocyte count, toxic neutrophilia, eosinophilia and a slight increase in the erythrocyte sedimentation rate. On the strength of the studies carried out by V. A. L'yachenko, it is possible to state that roentgenographic examinations reveal definite shadows primarily near the bases of the lungs.

Pneumonal infection generally originates in the upper right bronchial passages. However, if the original infection originates near the center of the lobes, the lower part generally becomes infected before the upper part. The anterior and central regions of the lower lobes are usually infected prior to the posterior regions. The histology of these pneumonal diseases is characterized by acute interstitial inflammation with polymorphonuclear infiltration during the initial stage and in the alveolar during the later stage. It was noted that sulfamidine therapy had no effect.

Roentgenographic examinations of the lungs appear to be the most effective and practical measure. Auscultatory and percussible changes are frequently very difficult to determine and the only method of diagnosis of pneumonia is by roentgenographic examinations.

The clinical picture frequently does not coincide with the roentgenographic picture. For example, when a patient indicates crepitation and bronchial respiration, roentgenograms show no histologic changes in the lungs. Frequently, when there is no clinical symptom and an absence of intoxication, the roentgenograms remain unchanged for a long period of time. All that can be recommended is that cases whose roentgenograms show persistent shadows should be confined to bed until the infective nidus subsides. Severe cases of influenzal infection of a septic character may produce specific roentgenograms somewhat similar to disseminated tuberculosis or miliary carcinomatosis. Actually, therefore, roentgenograms serve only to locate the site of pneumonal infection which is too deeply seated to be determined by percussible or auscultatory methods.

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Influenzal pneumonia can be complicated by interlobular infection, pulmonary abscesses, and, in some cases, even pulmonary gangrene. Long series of studies showed that in pneumonal cases complicated with influenza infection, it is not uncommon to find abscessed conditions. Auscultatory methods are ineffective in the diagnosis of small multiple pulmonary abscesses.

When an influenzal pneumonia case succumbs in one to 3 days after the onset of the disease, it is safe to assume that pneumonia has been present for several months.

Frequently a physician is confronted with a so-called chronic influenzal pneumonia case, registering no febrile temperature. The infective process generally commences in the lower regions of the lungs and is strictly localized. Infrequently there is an increased crepitation caused by the friction of the pleura. However, an analysis of the blood indicates a high white count and an increase in the polymorphonuclear neutrophilic leukocyte count.

More often than not, influenzal pneumonia is complicated by pleurisy which may be bilateral, dry, fibrinous, serous, suppurative, or hemorrhagic.

Sulfamide preparations were administered to cases with influenzal pneumonia in 1943, 1944, and 1946. These primary sulfamide compounds were sulfathiazol and sulfadiazine which were given together with urotropic compounds. However, in the past year there were many who reacted negatively to sulfamide compounds and many cases indicated no favorable reaction to penicillin administrations.

Due to the morbid action of the virus of influenza on the cardiovascular system, it is vital that this system be stimulated during the early stage of the disease. Administration of such substances as camphor or caffeine is recommended.

Immediately following an irritation of the respiratory tracts which causes tussis, it is necessary to administer such narcotics as codeine, dionin, Dover's powder, as well as hot milk with alkaline admixtures. For wet crepitation, the administration of ipecacuanha, senega, thermopsis, or marshmallow root is recommended. Prompt medication is recommended because harsh expectoration may lead to hemoptysis due to the hematologic condition.

It has been noticed, particularly in cases indicating fever, that the temperature decreases after the cessation of tussis and mucoid and purulent expectoration. Favorable results in lowering the temperature have been obtained with heavy dosages of streptocide, 0.3 grams, up to six times a day. Subcutaneous administration of camphor produced favorable results in influenzal cases complicated with capillary bronchitis or pneumonia.

Examinations showed that with the formation of lesions, as much as 300 cc of blood may flood the lungs and cut the oxygen intake in the lung tissue.

In view of the severity of this disease, which lowers the tone of the cardiovascular system, it is recommended that patients, after their recovery, remain for some time under the observation and care of a physician.

One more word of warning. Influenzal pneumonia, even in a very mild form, is highly contagious and acts as the basis for possible development of any one of several serious and possibly fatal diseases.

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